

Spot Safety Project Evaluation

Project Information

Order ID: 41000028055

Project ID: 06-05-004

Location: SR 1121 (Ray Road) at SR 1120 (Overhills Road)

County: Harnett

City: Anderson Creek

Division: 6

Signal ID: 06-0642

Countermeasure: Install two-phase signal on wood poles and establish left turn lanes on SR 1120 (Implemented March 2009)
Revision of signal to Flashing Yellow Arrow Installation on SR 1120 (Implemented April 2010)

Project Completion: March 23, 2009

Project Cost: \$248,000

Map and Aerial (from Google Maps, Coordinates are -- 35.257289,-78.968879)



Naive Before and After Analysis

Before Period: February 1, 2005 through November 30, 2008 (3 years, 10 months)

Const. Period: December 1, 2008 through April 30, 2010

After Period: May 1, 2010 through February 28, 2014 (3 years, 10 months)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1120 and SR 1121 approaches and included the channelized right turn off Northbound SR 1121.

Target Crashes: Frontal Impact Crashes. Please note that Frontal Impact Crashes were the target crashes for the applied countermeasure. Frontal Impact crashes include: Left turn, same roadway; Left turn, different roadways; Right turn, same roadway; Right turn, different roadways; Head on; and Angle.

<u>Treatment Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	40	28	- 30.0 %
Total Severity Index	4.14	3.38	- 18.4 %
Target Crashes	32	9	- 71.9 %
Target Crash Severity Index	4.47	3.47	- 22.4 %
Volume (2007, 2012)	10,500	14,700	+ 40.0 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	0	- 100.0 %
Class B injury Crashes	4	1	- 40.0 %
Class C Injury Crashes	13	8	- 55.0 %
Property Damage Only	23	19	- 10.0 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
LTDR (Target)	11	1	- 90.9 %
LTSR (Target)	3	8	+ 167.7 %
Angle (Target)	17	0	- 100.0 %
Northbound-Eastbound Angle (Target)	7	0	- 100.0 %
Eastbound Approach Rear End Crashes	1	4	+ 300.0 %
Northbound Approach Rear End Crashes	0	3	+ 300.0 %

Overall Summary Results

Total Crashes:	- 30 %	(reduction)
Total Crash Severity:	- 18 %	(reduction)
Target Crashes:	- 72 %	(reduction)
Target Crash Severity:	- 22 %	(reduction)
Volume:	+ 40 %	(increase)

Additional Summary Results

LTSR (Target):	+ 168 %	(increase)
Angle (Target):	- 100 %	(reduction)

Items for Discussion/Concerns

In the before and after period all Left Turn, Same Roadway (LTSR) Crashes occurred on SR 1121. The before period had 3 LTSR and the after period contained 8 LTSR crashes on SR 1121.

The intersection experienced an elimination of angle crashes in the after period (17 to 0 crashes).

Data Prepared For

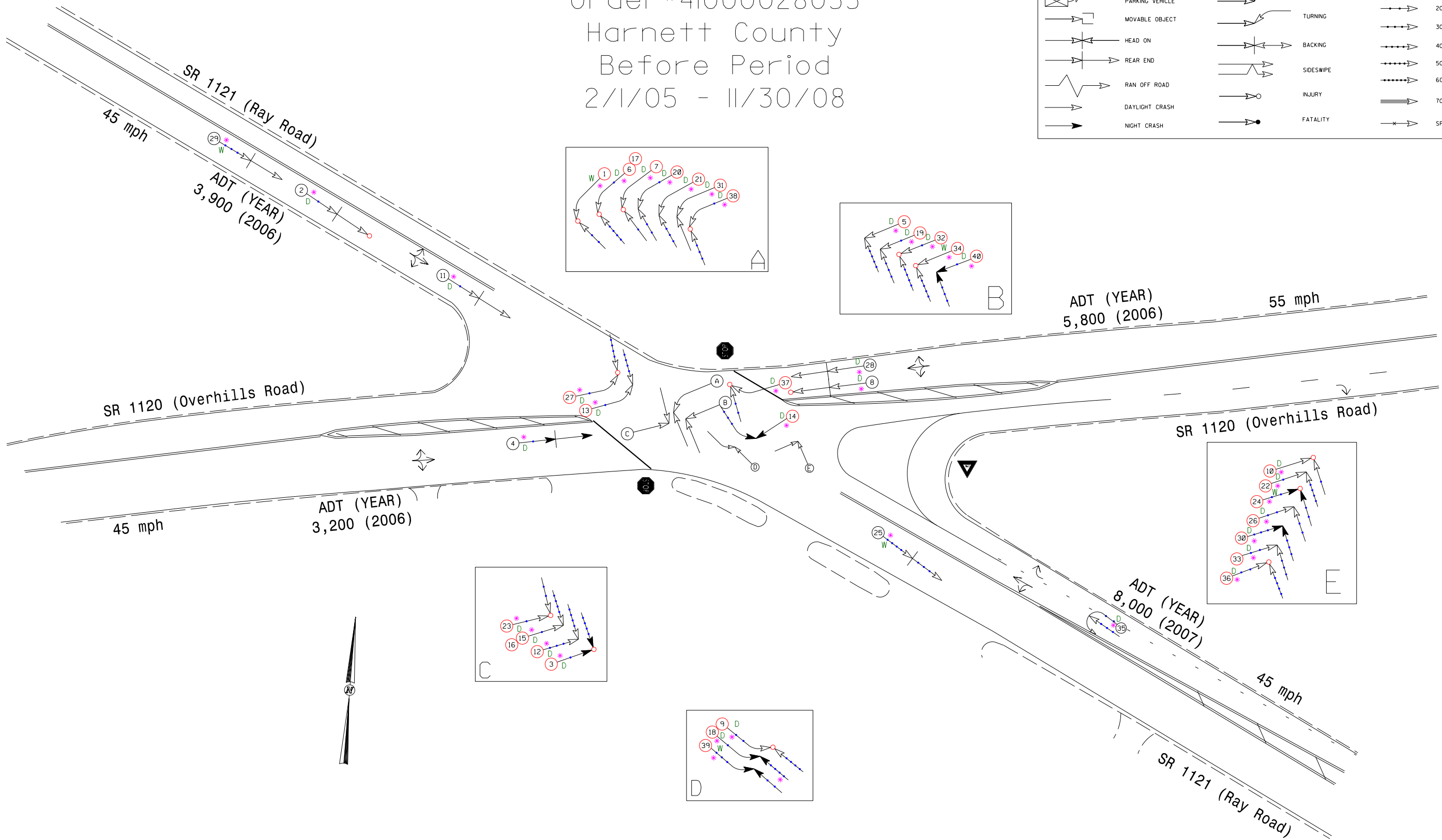
The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Elizabeth Scott, EI
Work Group/Consultant: Stantec Consulting Services Inc.
Date: April 16, 2014

SS# 06-05-004
Order#41000028055
Harnett County
Before Period
2/1/05 - 11/30/08

LEGEND			
	MOVING VEHICLE		ANGLE
	PARKED VEHICLE		TURNING
	PARKING VEHICLE		BACKING
	MOVABLE OBJECT		SIDESWIPE
	HEAD ON		INJURY
	REAR END		FATALITY
	RAN OFF ROAD		9 MPH OR LESS
	DAYLIGHT CRASH		10 MPH TO 19
	NIGHT CRASH		20 MPH TO 29
			30 MPH TO 39
			40 MPH TO 49
			50 MPH TO 59
			60 MPH TO 69
			70 AND UP
			SPEED UNKNOWN
			A ANIMAL
			P PEDESTRIAN
			B BICYCLE
			T TRAIN
			* DRIVER AT FAULT
			D DRY
			W WET
			I ICY OR SNOWY
			O Other



* Crash #23 is depicted as a Southbound-Eastbound Angle Crash as these are the initial movements that spur consequential collisions

Target Crashes

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
TRANSPORTATION MOBILITY and
SAFETY DIVISION

Date: 4/15/2014

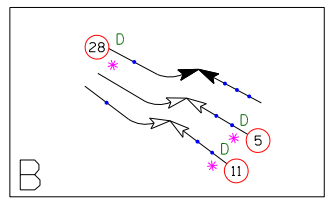
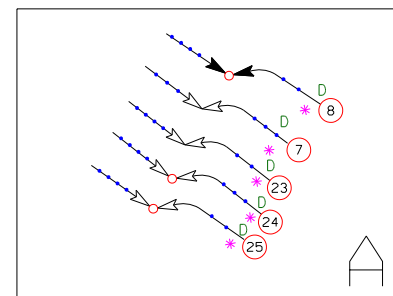
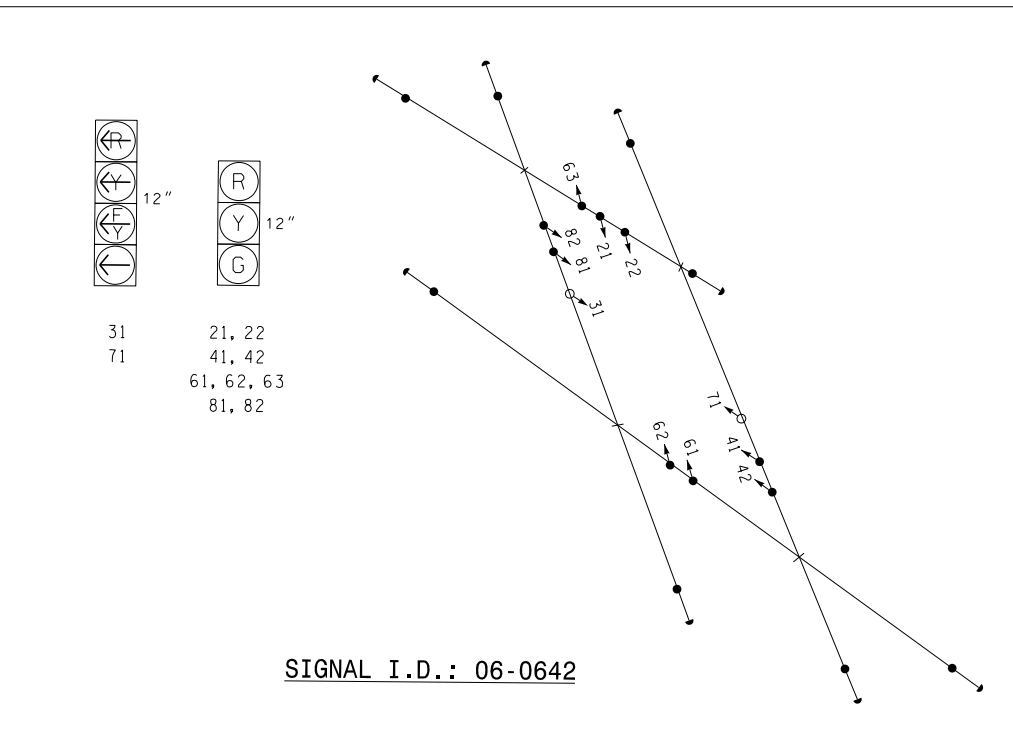
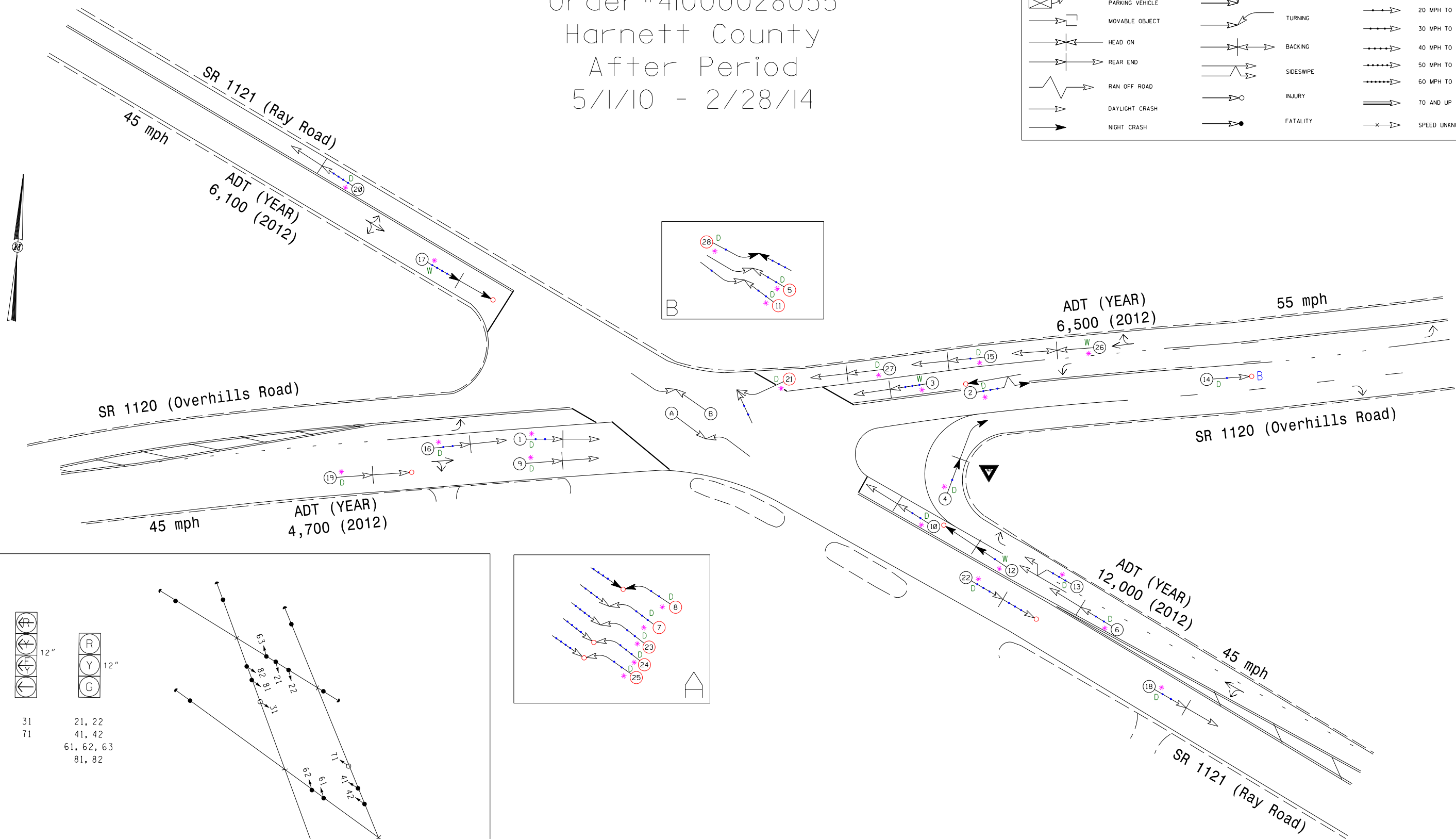
Prepared By: ESS



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SS# 06-05-004
Order#41000028055
Harnett County
After Period
5/1/10 - 2/28/14

LEGEND			
	MOVING VEHICLE		ANGLE
	PARKED VEHICLE		TURNING
	PARKING VEHICLE		BACKING
	MOVABLE OBJECT		SIDESWIPE
	HEAD ON		INJURY
	REAR END		FATALITY
	RAN OFF ROAD		9 MPH OR LESS
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